

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Pedro F. Suarez (45,895) on 05/19/2009.

2. The application has been amended as follows:

1. (Currently Amended) A computer-implemented communication method, comprising:

providing one or more requests for acknowledgement in an asynchronous request message transmitted from an application-level of a sender system, wherein each request for acknowledgement corresponds to at least one event related to the request message, the asynchronous request message for enterprise application-level processing of the asynchronous request message at a receiver system, the request message being in a format in accordance with extensible markup language format;

transmitting the request message with the one or more requests for acknowledgement to the receiver system, the receiver system being an enterprise system providing services, the request to request one or more of the services of the receiver system to process the asynchronous request message, and the transmitting the request message comprising transmitting the request message in an exchange

infrastructure for communication among components of collaborative business systems, the components comprising the sender system and the receiving system; and

splitting, at one or more network components between the sender system and the receiver system, the request message that is transmitted into two or more child messages, wherein each child message includes the one or more requests for acknowledgement; and

receiving an acknowledgment message responsive to the request message and related to each child message, the acknowledgement message received, based on the split, are transported transparently to the sender system, the acknowledgement message being an application-level message sent by the receiver system of the request message, the acknowledgement message being in a format in accordance with extensible markup language format, the acknowledgement message sent to the sender system of the request message, and the acknowledgement message having different types, each type characterizing an application state, the application states comprising:

a state indicating the request message was processed correctly in an application of the receiver system,

a state indicating the request message processed with error in the application of the receiver system,

a state indicating processing of the request message canceled after error,

a state indicating a system error occurred during processing of the request message, and

a state indicating an outbound adapter of the receiver system does not support application acknowledgments.

2. (Original) The method in accordance with claim 1, wherein requesting an acknowledgement includes setting a flag in a header of the request message.

3. (Original) The method in accordance with claim 2, wherein the flag is set in a header of the asynchronous request message.

4. (Original) The method in accordance with claim 1, wherein the event includes a system error during transport of the request message to the receiver system.

5. (Original) The method in accordance with claim 1, wherein the event includes the receipt of the request message by the receiver system.

6. (Original) The method in accordance with claim 1, wherein the event includes the successful processing of the request message by an application associated with the receiver system.

7. (Original) The method in accordance with claim 1, wherein the event includes the erroneous processing of the request message by an application associated with the receiver system.

8. (Original) The method in accordance with claim 1, further comprising generating the acknowledgement message upon completion of the event.

9. (Original) The method in accordance with claim 8, further comprising transmitting the acknowledgement message to the sender system.

10. (Original) The method in accordance with claim 1, further comprising:
generating a hoplist that includes a list of network components through which the
request message is transmitted; and

transmitting an acknowledgement message related to each request for
acknowledgement through network components corresponding to the hoplist.

11. (Canceled).

12. (Currently Amended) A computer-implemented communication method for
acknowledging one or more events related to an asynchronous request message sent
from a sender system to a receiver system, the method comprising:

receiving an asynchronous request message from the sender system, the
asynchronous request message being an enterprise application-level message;

wherein transmitting the asynchronous request message from the sender system
to the receiver system further comprises splitting, at one or more network components
between the sender system and the receiver system, the request message that is
transmitted into two or more child messages, wherein each child message includes the
one or more requests for acknowledgement;

determining, based on the asynchronous request message, whether an
acknowledgement to an event associated with the asynchronous request message is
requested; and

if an acknowledgement to the event associated with the asynchronous request
message is requested, transparently transmitting an asynchronous acknowledgement
message related to each child message based on the split, to the sender system upon

occurrence of the event, wherein the asynchronous acknowledgement message includes a result of the event and a reference to the asynchronous request message, the asynchronous acknowledgement message having different types, each type characterizing an application state, the application states comprising:

- a state indicating the asynchronous request message was processed correctly in an application of the receiver system,

- a state indicating the asynchronous request message processed with error in the application of the receiver system,

- a state indicating processing of the asynchronous request message canceled after error,

- a state indicating a system error occurred during processing of the asynchronous request message, and

- a state indicating an outbound adapter of the receiver system does not support application acknowledgments.

13. (Original) The method in accordance with claim 12, wherein the event corresponds to one or more events selected from the event group that consists of:

- the receipt of the asynchronous request message by the receiver system;

- a system error during transport of the request message to the receiver system;

- the successful processing of the request message; and/or

- the erroneous processing of the request message.

14. (Original) The method in accordance with claim 12, wherein the asynchronous acknowledgement message is generated by the receiver system, and

further comprising receiving the asynchronous acknowledgement message from the receiver system.

15. (Original) The method in accordance with claim 14, further comprising matching the asynchronous acknowledgement message with the associated asynchronous request message.

16. (Original) The method in accordance with claim 15, wherein matching the asynchronous acknowledgement message with the associated asynchronous request message includes comparing the reference to the asynchronous request message with a message ID of a copy of the asynchronous request message.

17. (Original) The method in accordance with claim 12, wherein determining whether the sender system requests an acknowledgement to an event associated with the asynchronous request message includes reading a flag in a header of the asynchronous request message.

18. (Original) The method in accordance with claim 17, wherein the flag is set by the sender system.

19. (Currently Amended) A system for asynchronous communication between a sender system and a receiver system, comprising:

a forward pipeline for transmitting asynchronous request messages from the sender system to the receiver system, the asynchronous request messages being enterprise application-level messages; and

splitting, at one or more network components between the sender system and the receiver system, the request message that is transmitted into two or more child

messages, wherein each child message includes the one or more requests for acknowledgement; and

a backward pipeline for transparently transmitting asynchronous acknowledgement messages related to event associated with each child message based on the split, from the receiver system to the sender system, wherein each acknowledgement message includes a reference to a request message and a result of an event associated with the request message, the asynchronous acknowledgement messages having different types, each type characterizing an application state, the application states comprising:

- a state indicating an asynchronous request message was processed correctly in an application of the receiver system,

- a state indicating the asynchronous request message processed with error in the application of the receiver system,

- a state indicating processing of the asynchronous request message canceled after error,

- a state indicating a system error occurred during processing of the asynchronous request message, and

- a state indicating an outbound adapter of the receiver system does not support application acknowledgments.

20. (Original) The system in accordance with claim 19, further comprising an enterprise application integrator hosted on a server, and wherein the forward pipeline

includes a first HTTP connection from the sender system to the server and a second HTTP connection from the server to the receiver system.

21. (Original) The system in accordance with claim 19, wherein the backward pipeline includes a first HTTP connection from the receiver system to the server and a second HTTP connection from the server to the sender system.

22. (Original) The system in accordance with claim 19, further comprising a database associated with the forward and backward pipelines, for storing a copy of each transmitted request message and each transmitted acknowledgement message.

23. (Previously Presented) The method in accordance with claim 1, wherein the asynchronous request message comprises a plurality of requests comprising a first request for acknowledgement of a state of processing of the asynchronous request message at a software application of the receiver system and each of the requests is to result in a separate acknowledgment message.

24. (Previously Presented) The method in accordance with claim 23, wherein the first request is a request for acknowledgement of whether the software application failed to process the message.

25. (Previously Presented) The method in accordance with claim 1, wherein the components are web-based applications.

26. (Currently Amended) The method in accordance with claim 1, wherein the transmitting of the asynchronous request message is initiated by an outbound proxy call to an exchange engine to transmit the asynchronous request message to an exchange infrastructure server, the exchange infrastructure stores

duplicates of the asynchronous request message for ~~reexecution~~ re-execution in case of error, and an application of the sender system that causes the call of the outbound proxy continues processing information other than the asynchronous request message without an acknowledgment from the receiver system of status of the call.

Allowable Subject Matter

3. Claims 1-10 and 12-26 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The claimed invention is directed toward a computer-implemented communication method, comprising: providing one or more requests for acknowledgement in an asynchronous request message transmitted from an application-level of a sender system, wherein each request for acknowledgement corresponds to at least one event related to the request message, the asynchronous request message for enterprise application-level processing of the asynchronous request message at a receiver system, the request message being in a format in accordance with extensible markup language format; transmitting the request message with the one or more requests for acknowledgement to the receiver system, the receiver system being an enterprise system providing services, the request to request one or more of the services of the receiver system to process the asynchronous request message, and the transmitting the request message comprising transmitting the request message in an exchange infrastructure for communication among components of collaborative business systems, the components comprising the sender system and the

receiving system; splitting, at one or more network components between the sender system and the receiver system, the request message that is transmitted into two or more child messages, wherein each child message includes the one or more requests for acknowledgement; and receiving an acknowledgment message responsive to the request message and related to each child message, the acknowledgement message received, based on the split, are transported transparently to the sender system, the acknowledgement message being an application-level message sent by the receiver system of the request message, the acknowledgement message being in a format in accordance with extensible markup language format, the acknowledgement message sent to the sender system of the request message, and the acknowledgement message having different types, each type characterizing an application state, the application states comprising: a state indicating the request message was processed correctly in an application of the receiver system, a state indicating the request message processed with error in the application of the receiver system, a state indicating processing of the request message canceled after error, a state indicating a system error occurred during processing of the request message, and a state indicating an outbound adapter of the receiver system does not support application acknowledgments.

4. In specific, the prior art of record taking singly or in combination does not teach or suggest a combination method of transmitting the request message with the one or more requests for acknowledgement to the receiver system, the receiver system being an enterprise system providing services, the request to request one or more of the services of the receiver system to process the asynchronous request message, and the

transmitting the request message comprising transmitting the request message in an exchange infrastructure for communication among components of collaborative business systems, the components comprising the sender system and the receiving system; splitting, at one or more network components between the sender system and the receiver system, the request message that is transmitted into two or more child messages, wherein each child message includes the one or more requests for acknowledgement; and receiving an acknowledgment message responsive to the request message and related to each child message, the acknowledgement message received, based on the split, are transported transparently to the sender system. Therefore, the closest prior art of record (i.e: Ankireddipally et al. (Patent no.: US 6,772,216 B1), Frymier (Patent no.: US 5,604,487), Ho et al. (publication no.: US 2003/0135640 A1) and Wilhelmsson (Patent no.: US 5,654,969)) taking singly or in combination does not teach or suggest these features. Based on this reasoning, claim 1 is allowable over the prior art of record.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIN LIU whose telephone number is (571)270-1447. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Srivastava Vivek can be reached on (571) 272-7304. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin Liu/
Examiner, Art Unit 2445

/Patrice Winder/
Primary Examiner, Art Unit 2445